

IN THE CLAIMS:

The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (currently amended): A solid-state image pickup device comprising a plurality of photoelectric conversion elements and a plurality of switching elements, characterized in that each photoelectric conversion element is formed above at least one switching element, and a shielding electrode layer is disposed between the switching elements and the photoelectric conversion elements, wherein a film thickness of the shielding electrode layer is thinner than each of a film thickness of a gate electrode layer, ~~a source/drain electrode layer~~ a source electrode layer, a drain electrode layer, and a sensor biasing electrode layer.

2. (original): A solid-state image pickup device according to claim 1, wherein one photoelectric conversion element and one or more switching elements are disposed in one pixel.

3. (previously presented): A solid-state image pickup device according to claim 1, wherein each photoelectric conversion element has a photoelectric conversion layer of a MIS type, and the photoelectric conversion layer includes an insulating layer, a semiconductor layer, and a high impurity concentrated semiconductor layer.

4. (previously presented): A solid-state image pickup device according to claim 1, wherein each photoelectric conversion element has a photoelectric conversion layer, and the

photoelectric conversion layer includes a first high impurity concentrated semiconductor layer of one conductivity type, a semiconductor layer, and a second high impurity concentrated semiconductor layer of a conductivity type opposite to the one conductivity type of the first high impurity concentrated semiconductor layer.

5. (previously presented): A solid-state image pickup device according to claim 1, wherein the shielding electrode layer is not formed above a signal line connected to one of a source electrode and a drain electrode of the switching element.

6. (previously presented): A solid-state image pickup device according to claim 1, wherein the shielding electrode layer is held at a constant electric potential.

7. (original): A solid-state image pickup device according to claim 6, wherein the shielding electrode layer is grounded.

8. (previously presented): A solid-state image pickup device according to claim 1, wherein each of the switching elements is constituted by a TFT, and the shielding electrode layer is disposed so as to cover an upper portion of a channel of each of the TFTs.

9. (previously presented): A solid-state image pickup device according to claim 8, wherein the shielding electrode layer has a width equal to or smaller than a channel [[width]] length of the TFT and is disposed so as to cross a TFT driving wiring.

10. (previously presented): A solid-state image pickup device according to claim 1, wherein the shielding electrode layer is made of a high melting point metal.

11. (original): A solid-state image pickup device according to claim 10, wherein the shielding electrode layer is made of molybdenum (Mo), chromium (Cr), titanium (Ti), tungsten (W), or molybdenum-tungsten (MoW).

12. (cancelled).

13. (currently amended): A solid-state image pickup device according to claim 1, wherein the solid-state image pickup device includes a gate electrode layer, a gate insulating layer, a first amorphous semiconductor layer, a first n-type semiconductor layer, ~~a source/drain electrode layer~~ ~~a source electrode layer, a drain electrode layer~~, a source/drain electrode layer, a first interlayer insulating layer, the shielding electrode layer, a second interlayer insulating layer, a sensor lower electrode layer, an insulating layer, a second amorphous semiconductor layer, a second n-type semiconductor layer, a transparent electrode layer, and a sensor biasing electrode layer.

14. (original): A solid-state image pickup device according to claim 13, wherein one photoelectric conversion element and one or more TFTs are disposed in one pixel.

15. (previously presented): A radiation image pickup device, characterized in that a wavelength conversion unit is disposed above each photoelectric conversion element in the solid-state image pickup device as claimed in claim 1.

16. (original): A radiation image pickup device according to claim 15, wherein one photoelectric conversion element and one or more switching elements are disposed in one pixel.

17. (currently amended): A radiation image pickup device comprising a radiation conversion layer for directly converting radiation into electric charges, and a plurality of switching elements, characterized in that the radiation conversion layer is formed above one or more switching elements, and a shielding electrode layer is disposed between the switching elements and the radiation conversion layer, wherein a film thickness of the shielding electrode layer is thinner than each of the film thickness of a gate electrode layer, ~~a source/drain electrode layer~~ a source electrode layer, a drain electrode layer, and a sensor biasing electrode layer.

18. (currently amended): A radiation image pickup device according to claim 17, wherein the radiation image pickup device includes a gate electrode layer, a gate insulating layer, a first amorphous semiconductor layer, a first n-type semiconductor layer, ~~a source/drain electrode layer~~ a source electrode layer, a drain electrode layer, a first interlayer insulating layer, the shielding electrode layer, a second interlayer insulating layer, a sensor lower electrode layer, a radiation conversion layer, and a sensor biasing electrode layer.